Refine Search

Search Results -

Terms	Documents
L7 same retransmi$	18

Database: US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L12

Refine Search | Recall Text | Clear | Interrupt

Search History

DATE: Thursday, April 28, 2005 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR			
L12	L7 same retransmi$	18	L12
L11	L7 same procedure	29	L11
L10	L9 same procedure	5	L10
L9	L8 same (terminat$ or detect$)	42	L9
L8	L7 same protocol	131	L8
L7	error same handshak$ same message	373	L7
L6	error same hanshak$ same message	1	L6
L5	L4 same message	18	L5
L4	L1 same error same terminat$	56	L4
L3	L2 same l1	53	L3
L2	error adj1 message	17879	L2
L1	handshaking	6132	L1

END OF SEARCH HISTORY

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End of Result Set

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L12: Entry 18 of 18 File: DWPI Jan 16, 2003

DERWENT-ACC-NO: 1995-394094
DERWENT-WEEK: 200313

TITLE: Exchange controller for passing signal between terminals in noisy environment - terminates repeated transmission of signalling message when response signal is received

Basic Abstract Text (3):
USE/ADVANTAGE - For controlling retransmission of signalling messages during handshaking. Fast operation due to better retransmission. Reduces errors.

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Generate Collection Print

L10: Entry 4 of 5 File: USPT Feb 16, 1999

DOCUMENT-IDENTIFIER: US 5872845 A
TITLE: Method and apparatus for interfacing fax machines to digital communication networks

Detailed Description Text (23):
The interface memory preferably contains a list of phone numbers of several alternative choices for local servers. These numbers preferably can be updated remotely. When interface 120 dials the first local server, it initiates a timer. If the initial number does not result in a connection with the local server, the interface sequentially attempts to connect with a local server using the alternative numbers. If the local server, or host, is not connected to the interface before the timer reaches a predetermined threshold, interface 120 initiates a transmission error procedure to fax machine 110 and terminates the transmission. The error is also reported to the host. However, if the interface connects to the local server prior to the timer reaching its threshold, the interface re-encodes the message and begins transmission of the message to the local server by way of its data modem. The first interface uses a conventional data handshake protocol to establish a connection with the local server.

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End of Result Set

Generate Collection Print

L3: Entry 53 of 53 File: DWPI Feb 23, 1990

DERWENT-ACC-NO: 1990-109798
DERWENT-WEEK: 200022

TITLE: Smart card data transfer protocol appts. - has handshaking enabling data flow to continue if error message is sent from card

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L3: Entry 46 of 53 File: USPT Jun 6, 1995

DOCUMENT-IDENTIFIER: US 5422936 A
TITLE: Enhanced message service indication

Detailed Description Text (52):
This prevention of completion to the subscriber's mailbox can be useful in a variety of situations. For example, the subscriber at station 33 may have a FAX machine 33' set up to respond to the distinctive ringing signal corresponding to the second assigned directory number, but the messaging equipment 20 may not be capable of processing facsimile information. In this case the subscriber would designate the second number for blocking. Calls using the main number would be forwarded and processed by the voice messaging equipment 20 in the manner discussed above. Facsimile calls, however, would result in an error message. The error message would not correspond to any one of the handshaking tones normally transmitted by an answering facsimile machine. As a result, the calling facsimile machine would not receive an expected handshake signal and would assume the call was not properly completed.

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Generate Collection Print

L5: Entry 2 of 18 File: USPT Feb 17, 2004

DOCUMENT-IDENTIFIER: US 6694470 B1
TITLE: Retransmission procedure and apparatus for handshaking protocol

Detailed Description Text (46):
(2) If a HSTU-x receives an errored multi-segmented message, the Multi-Segment Frame Number (MSFN) field contains the message segment number. As previously described above, in the disclosed embodiment, the first segment has a MSFN value of 0. The second segment has a MSFN value of 1, and so on. Although the segment frames do not contain a field which explicitly numbers the frame, the HSTU-R (e.g., remote system 4) and the HSTU-C (e.g., central system 2) must maintain an implicit count of the number of frames that are received. An example transaction is illustrated in FIG. 4, and will be described below; (3) If a HSTU-x has not received an error free message during the handshaking session, the Last Correctly Received Message (LCRM) octet must contain the NULL message code. An example of such a session is illustrated in FIG. 5, and will be described below; and (4) If a HSTU-C receives an RTX message with the Last Correctly Received Message (LCRM) set to NULL, the HSTU-C must respond with a NAK-CD message to clear down (e.g., hangup/terminate) the session. An example of such a session is illustrated in FIG. 6, and will be described below.

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L5: Entry 4 of 18 File: USPT Sep 24, 2002

DOCUMENT-IDENTIFIER: US 6457054 B1
TITLE: System for reducing user-visibility latency in network transactions

Detailed Description Text (5):
Another approach to reducing user-visible latency due to TCP handshaking is known as "Transaction TCP" or TTCP. TTCP is also described in Stevens & Wesley, supra, at 12-28. This approach, illustrated in FIG. 3, seeks to reduce user-visible latency by reducing the number of messages used for the initial TCP handshake procedure. In addition, this approach seeks to reduce the amount of time that the client device stays in a TIME_WAIT condition when it initiates the process of terminating a connection (that is, an active close). The TIME_WAIT condition is generally used to ensure that the connection is reliably terminated, and to reduce the risk of duplicate or delayed data packets from introducing spurious error conditions. Both of these objectives are achieved by sending a "connection count" (CC) variable during the connection handshake and termination phases. The value of CC may be used by the server to identify a new request from any given client device. Reducing the extent of the TIME_WAIT condition has been found to increase the performance of devices running HTTP transactions, as it allows efficient reuse of network connection resources such as ports, transaction blocks (TCB), and protocol blocks (PB).

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Generate Collection Print

L5: Entry 10 of 18 File: USPT Apr 9, 1991

DOCUMENT-IDENTIFIER: US 5007054 A
TITLE: Network and protocol for real-time control of machine operations

Detailed Description Text (29):
In order to transmit to the Dater, the Meter first sends the "sleep" command to the MMP. Then it sends <ADD.CMD> to the Dater. The Dater will send the (REPLY) within 200 .mu.sec. The Meter then sends the rest of the data message. If any data is in error, the Dater sends (NAK) and the message exchange is terminated. Otherwise, the Dater sends (ACK) and within 200 micro-seconds, it sends back a message to the Meter. The Dater module never initiates transmission. As soon as the Dater receives a message, it processes the message and starts to transmit a reply message within 200 micro-seconds. After the Meter has completed communication with the Dater, it will send the "wake-up" command to the MMP. Data transmission and receiving between the Meter and the Dater, except the handshaking, occurs within minimum 35 .mu.sec to maximum 50 .mu.sec per byte.

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L5: Entry 12 of 18 File: USPT Feb 29, 1972

DOCUMENT-IDENTIFIER: US 3646274 A
** See image for Certificate of Correction **
TITLE: ADAPTIVE SYSTEM FOR INFORMATION EXCHANGE

Detailed Description Text (10):
After the TEXT INTERVAL subperiods SIP, there follows the HANDSHAKING INTERVAL of 3 subperiods SIP which is used for various control functions. One of these functions will be called "handshaking" as a convenient term for signaling by which the intercommunicating stations establish mutual recognition and communicate a readiness or inability to exchange messages. This is better illustrated in FIG. 5. In FIG. 5, the first subperiod SIP of the HANDSHAKING INTERVAL is illustrated as used to permit an originating subscriber to direct a signal, including the SI of the receptor station, to alert the receptor station that someone is attempting to communicate with him or "requesting service." In the second subperiod SIP of the HANDSHAKING INTERVAL, the originating station may identify itself to the receptor station by sending out the originator's SI thus indicating to the receptor station, "My SI is." The receptor station may either acknowledge by sending back the originator's SI to indicate that the receptor station is ready, or not ready, to receive messages from the originator, or by failure to do so indicate that the receptor station is "busy" and cannot receive messages. The third subperiod SIP of the HANDSHAKING INTERVAL may be used for a multiplicity of control functions such as to indicate a termination of message or an error in the message.

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number : **0 682 425 A2**

(12) EUROPEAN PATENT APPLICATION

(21) Application number : **95303014.5**

(22) Date of filing : **03.05.95**

(51) Int. Cl.[6] : **H04L 1/18**, H04L 5/14, H04L 1/08

(30) Priority : **13.05.94 US 242500**

(43) Date of publication of application : **15.11.95 Bulletin 95/46**

(84) Designated Contracting States : **DE ES FR GB IT SE**

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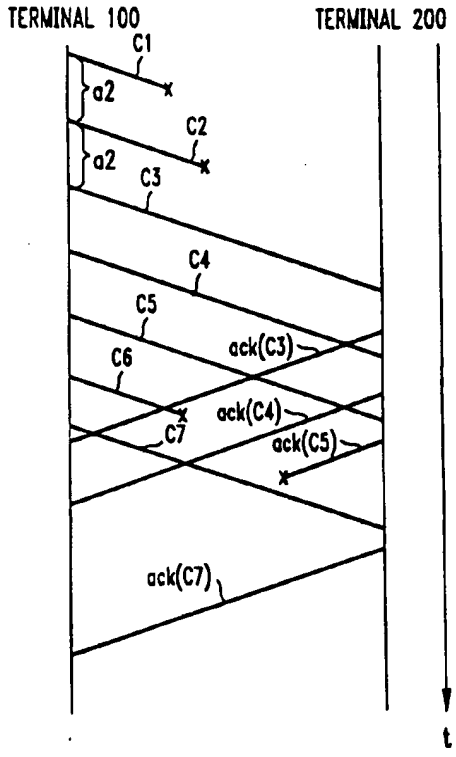
(54) A signaling protocol for a noisy communications channel.

(57) The retransmission of signaling messages that data terminals (e.g., modems) might exchange prior to exchanging user data is controlled by arranging a data terminal that receives multiple copies of the same signaling message so that it saves only the first copy thereof, but transmits a response to the sending terminal following receipt of each such copy. The sending terminal terminates its transmission of the signaling message upon receipt of a response from the receiving terminal. The inventive procedure is especially advantageous for controlling the retransmission of signaling messages during a n-way handshake between two terminals.

FIG. 3



EP 0 682 425 A2

The program of FIG. 8 is entered upon receipt of a command message and proceeds to block 801 where it checks to see if a copy of the command message has already been stored in its associated receive buffer 40. If so, then the program (block 802) transmits an acknowledgement message (ack) and then discards the received message. The program then exits. If not, then the program (block 803) (a) stores the received message in its associated receive buffer 40, (b) passes a copy of the message to its associated CCC 10 and (c) then transmits an ack message acknowledging receipt of the command message. The program then exits.

The program of FIG. 9 is entered upon receipt of an acknowledgement (ack) message to an earlier response or command message. When so entered, the program proceeds to block 901 where it checks to see if a copy of the ack message has already been stored in its associated receive buffer 40. If so, then the program (block 902) discards the received ack message. The program then exits. If not, the program (block 903) checks to see if the corresponding response or command message was stored previously in transmit buffer 30. If not, then the program (block 904) discards the received ack message and then exits. If so, the program (block 905) (a) stores the received message in its associated receive buffer 40, and (b) passes a copy of the ack message to its associated CCC 10.

The foregoing is merely illustrative of the principles of the invention. Those skilled in the art will be able to devise numerous arrangements, which, although not explicitly shown or described herein, nevertheless embody those principles that are within the spirit and scope of the invention. For example, since a signaling procedure may be initiated at either the near- or far-end transceiver (e.g., terminal 100 or 200), then there is a chance that multiple independent procedures may be active simultaneously. Also, different method sequences should be uniquely identified so that a response may be associated with a particular request.

Further, if two transceivers initiate signaling procedures of different levels of priority, then the procedure having the higher level of priority may cause the lower priority procedure to abort. This case might occur when, for example, a CCC responds to a request by transmitting a high priority request, rather than a response to the received request.

Still further, if two transceivers simultaneously initiate procedures of equal priority, then a contention resolution scheme may be invoked to deal therewith. Such a contention resolution scheme may include the claimed invention. For example, if the two terminals determine between themselves which has the higher priority by using their respective serial numbers or some other attribute, then the lower priority terminal may abort its procedure. As another example, if a transceiver (terminal) receives from another transceiver a request having a priority equal to that of a request that it just transmitted, then the receiving transceiver enters a state indicative of receiving a valid response to its transmitted request.

Claims

1. Apparatus to control the exchange of signaling messages between first and second data terminals, individual ones of the signaling messages requiring a response from the receiving terminal, said apparatus CHARACTERIZED BY

   at the first data terminal, means, responsive to the input of a signaling message requiring a response message, for repeatedly transmitting the signaling message and repeating such transmission until said response message is received from a second receiving terminal,

   at the second data terminal, means, responsive to receipt of the signaling message, for repeatedly transmitting the response message until a confirmation message is received from the first data terminal, and

   at the first data terminal, means for transmitting said confirmation message responsive to receipt of each response message.

2. Apparatus to control the exchange of signaling messages between data terminals, individual ones of the signaling messages requiring a response from a receiving terminal and other ones of the signaling messages requiring a confirmation from the receiving terminal, said apparatus CHARACTERIZED BY

   means, operative at that one of the data terminals that is last to respond as a result of receiving a signaling message from the other one of the data terminals, for repeating the transmission of the response until a confirmation message is received from the other one of the data terminals, and

   means, operative at the other one of the data terminals, for transmitting a confirmation message responsive to receipt of each said response message.

3. A method of controlling the exchange of signaling messages between first and second data terminals, individual ones of the signaling messages requiring a response from the receiving terminal, said method CHARACTERIZED BY the steps of

   at the first data terminal, responsive to the input of a signaling message requiring a response message, transmitting the signaling message to said second terminal, said signaling message being associated with a predetermined level of pri-

United States Patent

Nadir et al.

[15] **3,646,274**

[45] **Feb. 29, 1972**

[54] ADAPTIVE SYSTEM FOR INFORMATION EXCHANGE

[72] Inventors: **Mark T. Nadir, Warren; Carl N. Abramson, South Boundbrook, both of N.J.**

[73] Assignee: **Adaptive Technology, Inc., Piscataway, N.J.**

[22] Filed: **Sept. 29, 1969**

[21] Appl. No.: **861,947**

[52] **U.S. Cl.** .....179/15 BA, 179/15 AL, 179/15 BY

[51] **Int. Cl.** H04j 3/00

[58] **Field of Search** .....179/15 A, 15 BA, 15 AP, 15 BY, 179/15 BC, 2 A, 2 AS, 15 AW

[56] **References Cited**

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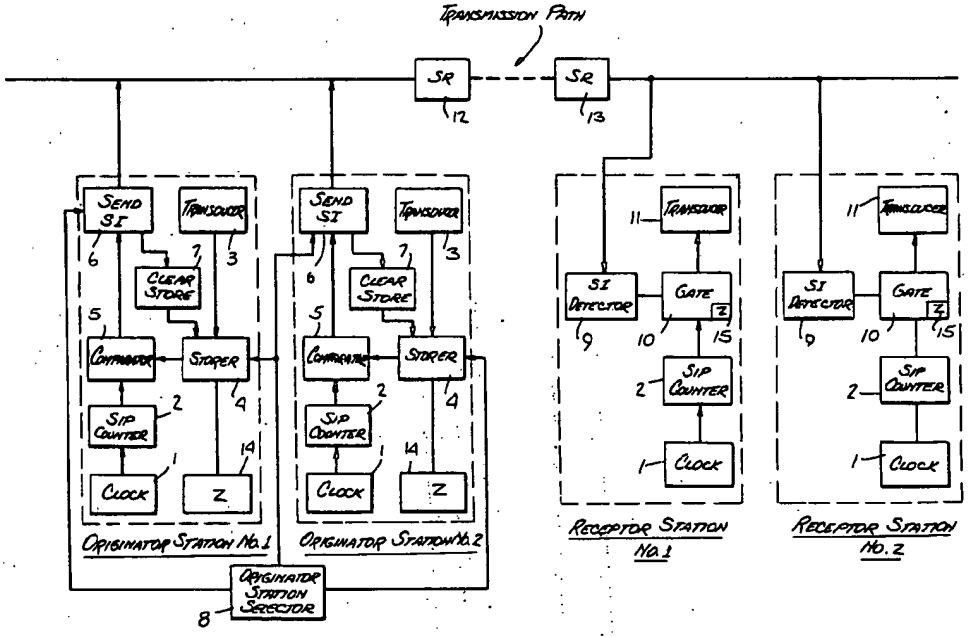
Primary Examiner—Kathleen H. Claffy
Assistant Examiner—David L. Stewart
Attorney—Kenyon & Kenyon Reilly Carr & Chapin

[57] **ABSTRACT**

A distributed-control multiplex system is disclosed in which individual discrete subperiods within a repetitive period are assigned respective words or message meanings from the system vocabulary. Information transfer between stations occurs by inserting into the subperiod assigned to the desired word or meaning to be transmitted the address of the receiving and/or sending station.

64 Claims, 27 Drawing Figures



United States Patent [19]

Mercola et al.

[11] **Patent Number: 4,959,833**

[45] **Date of Patent: Sep. 25, 1990**

[54] **DATA TRANSMISSION METHOD AND BUS EXTENDER**

[75] Inventors: **Gerald K. Mercola**, Pleasanton; **Shih-Hsing Huang**, San Jose, both of Calif.

[73] Assignee: **ICS Electronics Corporation**, San Jose, Calif.

[21] Appl. No.: **321,528**

[22] Filed: **Mar. 8, 1989**

[51] **Int. Cl.**[5] **G06F 11/08**

[52] **U.S. Cl.** **371/32**

[58] **Field of Search** 371/32, 33, 35, 20.1, 371/20.2, 20.6; 370/13, 94.1, 85.1, 85.13, 85.9

[56] **References Cited**

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Primary Examiner—Jerry Smith

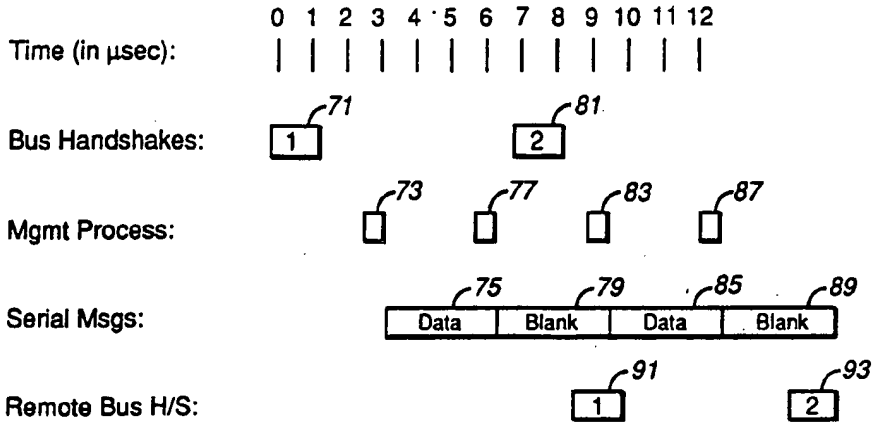
Assistant Examiner—Robert W. Beausoliel

Attorney, Agent, or Firm—Thomas Schneck

[57] **ABSTRACT**

A bus extender and data transmission method in which a continuous train of message frames of fixed size is sent along a dual serial link in both directions simultaneously. There is no handshaking between extenders unless a transmission error is detected. Message frames are constructed at a rate which is independent of serial link length and the bus data transfer rate. Each extender is divided into a bus handshake layer which sends and receives data and signals from a local bus, a management layer which continuously constructs message frames, responds to commands and receives and decodes incoming messages from a remote extender, and a transport layer. The transport layer has shift registers and encoders to receive messages from the management layer and transmit them over the serial link and has a memory to store up to 30 messages in the event of a retransmission request. The transport layer also receives messages from the serial link, checks for valid error-free messages and sends them to the management layer. It also initiates a retransmission request in the event a transmission error is detected.

11 Claims, 6 Drawing Sheets



United States Patent [19]

Lee et al.

[11] Patent Number: 5,007,054

[45] Date of Patent: Apr. 9, 1991

[54] **NETWORK AND PROTOCOL FOR REAL-TIME CONTROL OF MACHINE OPERATIONS**

[75] Inventors: David K. Lee, Monroe; Peter C. DiGiulio, Bridgeport, both of Conn.

[73] Assignee: Pitney Bowes Inc., Stamford, Conn.

[21] Appl. No.: 291,477

[22] Filed: Dec. 28, 1988

[51] Int. Cl.[5] G06F 11/00

[52] U.S. Cl. 371/32

[58] Field of Search 371/32, 34; 364/131, 364/200, 900

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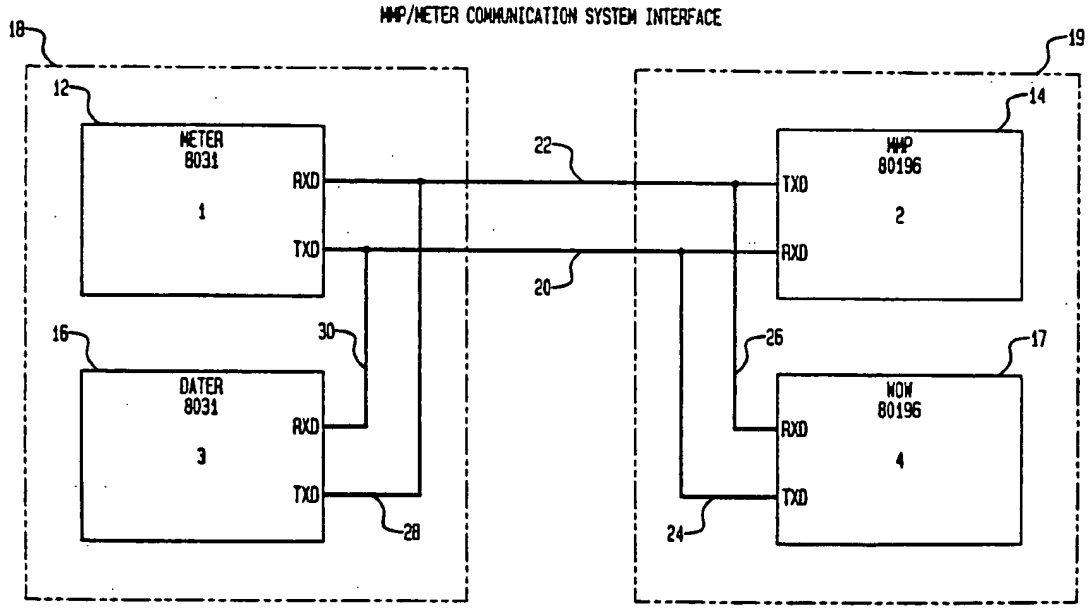
Primary Examiner—Jerry Smith
Assistant Examiner—Robert W. Beausoliel
Attorney, Agent, or Firm—Charles G. Parks, Jr.; David E. Pitchenik; Melvin J. Scolnick

[57] ABSTRACT

A communication network is comprised of a first, second, third and fourth controller node in line communication. Each controller node includes a microprocessor. Each microprocessor is programmable to respond to and generate data message bytes, each data byte having one start bit, eight data bits, one programmably settable bit and one stop bit. Each microprocessor is further programmable to respond only to a unique address-command data message byte from a message source node. The address-command byte is recognized because the settable bit is set. Each microprocessor is programmed to generate a reply message byte with the ninth bit not set and to then receive from the source node a message count byte followed uninterrupted by the data message bytes. Upon receiving a complete data message conforming to the received count of the count byte, the microprocessor then generates an acknowledgement byte.

4 Claims, 43 Drawing Sheets



US005872845A

United States Patent [19]

Feder

[11] Patent Number: 5,872,845

[45] Date of Patent: Feb. 16, 1999

[54] **METHOD AND APPARATUS FOR INTERFACING FAX MACHINES TO DIGITAL COMMUNICATION NETWORKS**

[76] Inventor: **Benjamin Feder**, 105 Hudson St., #6S, New York, N.Y. 10013

[21] Appl. No.: **690,714**

[22] Filed: **Jul. 31, 1996**

Related U.S. Application Data

[60] Provisional application No. 60/019,380, Jun. 5, 1996.

[51] **Int. Cl.**[6] **H04L 9/00**; H04N 1/00

[52] **U.S. Cl.** **380/18**; 380/49; 380/59; 379/100.1; 379/100.12; 379/100.13; 358/400; 358/443; 358/445

[58] **Field of Search** 380/9, 10, 18, 380/20, 49, 50, 59; 379/100, 100.01, 100.09, 100.12, 100.13; 375/211, 214; 358/400, 407, 425, 426, 442, 443, 445, 448, 462, 467, 468, 469

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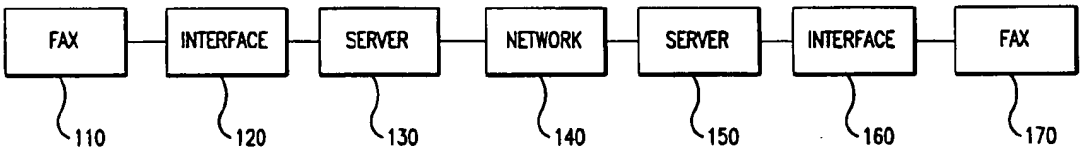
Primary Examiner—Bernarr E. Gregory

Attorney, Agent, or Firm—Pennie & Edmonds LLP

[57] **ABSTRACT**

A method and apparatus for implementing facsimile transmission over data networks is disclosed. In accordance with the preferred embodiment, the invention receives a modulated compressed facsimile message, which is then demodulated, decompressed and stored as a file. Thereafter, it is compressed for data transmission and sent to a server for transmission over a data network. At the receiving end, the file is decompressed and then re-compressed and modulated for transmission to a receiving facsimile machine.

49 Claims, 13 Drawing Sheets



US006457054B1

(12) **United States Patent**
Bakshi

(10) **Patent No.: US 6,457,054 B1**
(45) **Date of Patent: Sep. 24, 2002**

(54) **SYSTEM FOR REDUCING USER-VISIBILITY LATENCY IN NETWORK TRANSACTIONS**

(75) Inventor: **Bikram Singh Bakshi**, Hillsboro, OR (US)

(73) Assignee: **Intel Corporation**, Santa Clara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/000,761**

(22) Filed: **Dec. 30, 1997**

Related U.S. Application Data

(60) Provisional application No. 60/046,587, filed on May 15, 1997.

(51) **Int. Cl.**[7] **G06F 15/16**
(52) **U.S. Cl.** **709/227**; 709/232; 709/237
(58) **Field of Search** 709/237, 227, 709/232, 238

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* cited by examiner

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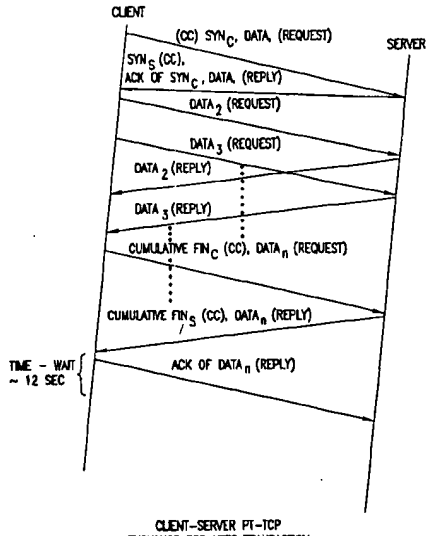
(57) **ABSTRACT**

A system for reducing user-visible latency for communications between two network devices is implemented in a method which includes transmitting a request packet from a first network device to a second network device, where the request packet has a request to establish a new connection and a request for data, with the request to establish a new connection including a connection identifier. The second network device selectively accepts the new connection or discards the request based upon a comparison of the connection identifier to a corresponding connection identifier that it maintains. The second network device transmits a response packet to the first network device that includes a confirmation of the request to establish a new connection and a reply to the request for data. A connection between the first and second network devices is maintained after receipt of the response packet.

25 Claims, 6 Drawing Sheets



CLIENT–SERVER PT–TCP EXCHANGE FOR HTTP TRANSACTION